

**WHAT IS CLAIMED IS:**

1. A system for removing heat, comprising:

one or more conduction pathways;

5 a thermal ground, wherein the one or more conduction pathways thermally couple one or more heat-producing elements of an encased electronic device to the thermal ground so that the thermal ground receives heat produced by the heat-producing elements; and

10 a heat dissipation element, wherein the heat dissipation element is thermally coupled to the thermal ground and is configured to transfer heat from the thermal ground to an environment external to the encased electronic device, and wherein the conduction pathways and the heat dissipation element provide a capacity to remove heat from the encased electronic device such that heat removal by convection from the heat-producing elements is not required.

2. The system of claim 1, wherein:

15 the system does not require the use of a fan to remove heat from the encased electronic device.

3. The system of claim 1, wherein:

20 the encased electronic device includes a plurality of heat-producing elements; and the one or more conduction pathways thermally couple the plurality of heat-producing elements to the thermal ground, whereby the heat removal system requires only one heat dissipation element to remove from the encased electronic device heat produced by the plurality of heat-producing elements.

4. The system of claim 1, wherein:

the thermal ground and the heat dissipation element are integrated.

5. The system of claim 1, wherein:

25 the electronic device is a computer encased in a thermally conductive casing; the heat-producing elements of the computer include any combination of a central processing unit, one or more PC cards, one or more disk drives, and one or more

power supplies;

the thermal ground is a thermally conductive plate situated inside the encased computer; and

the heat dissipation element includes the thermally conductive casing of the computer.

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6. The system of claim 1, wherein the thermal ground provides structural support.

7. The system of claim 1, wherein:

the thermal ground is one of a plate, a rod, a sphere, a pyramid, and a block.

8. The system of claim 1, wherein:

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the thermal ground is made of any combination of aluminum, copper, anisotropic graphite fiber composites and nano-tube graphite.

9. The system of claim 1, wherein:

the thermal ground includes active thermionic elements.

10. The system of claim 1, wherein:

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the heat dissipation element is configured to remove heat from the thermal ground by any combination of natural convection, forced convection, conduction, and radiation.

11. The system of claim 1, wherein:

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the heat dissipation element includes features situated and configured to dissipate heat by natural convection to the environment external to the encased electronic device.

12. The system of claim 11, wherein:

the features include fins.

13. The system of claim 1, wherein:

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the heat dissipation element includes a conduit thermally coupled to the thermal ground and through which a coolant can flow.

14. The system of claim 1, wherein:

at least one of the one or more conduction pathways is provided by a thermal connector.

15. The system of claim 1, further comprising:

5 an insulation casing configured to attach to at least one of the heat-producing elements and reduce heat transfer by convection from the at least one heat-producing element to the environment inside the encased electronic device.